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New York Agricultural Experiment Station.

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THE GRAPE DISTRICTS OF NEW YORK AND TABLE OF VARIETIES.

M. J. DORSEY.

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* Riverhead, N. Y.
† Absent on leave.

BULLETIN No. 315.

THE GRAPE DISTRICTS OF NEW YORK AND TABLE OF VARIETIES.

M. J. DORSEY.

INTRODUCTION.

The basis of this bulletin is "The Grapes of New York," prepared by this Station and published by the State Department of Agriculture. In collecting the material for the grape book, much valuable information was contributed by the grape-growers of New York in co-operation with the Station. The edition of the larger work was necessarily limited. It is the purpose of this bulletin to place before the grape-growers an accurate summary of the information contained in the grape book.

The bulletin contains: First, a discussion of the natural factors influencing grape culture. Second, an account of the location, soil, climate, history and present status of the four great grape districts of New York. Third, a brief description of the most important species of Vitis, giving their natural habitat, botanical differences and horticultural importance, with the object of showing their significance in varieties. Fourth, a table of 161 of the most important varieties, giving the species, fruit and vine characters, date and place of origin or introduction, and a brief statement of their value for the grower.

THE NATURAL FACTORS INFLUENCING GRAPE CULTURE.

Commercial grape growing in New York is practically confined to four well-defined and specialized districts. This is largely due to the favorable influence of the natural factors which govern the distribution of plants. Few species are more decidedly influenced than the cultivated grape, by latitude and altitude, temperature, water supply, air currents, the chemical and physical properties of the soil, insects and fungi,—the natural factors which determine local environment.

Altitude and latitude.—The temperature of a place, as well as the amount of sunlight and the length of the growing season, is largely determined by the latitude and altitude. Local modifications often counteract these. In general, cultivated varieties are more exacting in their demands than native species; because such plants are usually removed from their natural habitat, and their growth attempted in places having a different elevation, a longer or shorter growing season, or a higher or lower annual temperature. Similar susceptibility to environmental variations is also shown in the case of grapes from crosses between species long adapted to different climatic conditions.

Temperature.—The grape requires a relatively even air temperature. In the latitude of New York, regions and seasons having a comparatively low temperature during the growing season of May, June and July, with much sunshine during the maturing months of August, September and October, produce the best grapes. Grape growing is perhaps dominated more by air temperature than any other single factor. This largely determines the northern range and hardiness of varieties, which ones can be grown successfully in any region, and in many seasons where and when there shall be a crop. Its influence is seen at different periods of the year in winter killing, damage by late spring or early frosts, shrivelling and drying up of the leaves or sunscald of the fruit. In the control of air temperature lies the value to the grape of large bodies of water, like lakes and wide rivers, which temper the cold winter and hot summer weather, equalize night and day temperatures and lengthen the growing season by warding off frosts in the spring and autumn.

Water.—Not only must the total annual rainfall be considered but also its distribution throughout the season. The smallest quantity required for a good vine growth produces the best crops, freest from diseases. An excessive rainfall during the growing and maturing season favors the growth of fungi, checks and weakens root development while at the same time it induces too great a growth of vine and when coming at blooming time hinders the proper setting of fruit. A comparatively dry soil favors a larger root growth which is better able to stand drouth, and is less favorable to fungus diseases, but more favorable to the phylloxera. Species and varieties differ as to their ability to withstand an excess of moisture.

Air currents.—Air currents and air drainage are of most importance in the control or suppression of fungi. In regions having good air drainage the dreaded black-rot and mildew are less destructive. When the temperature is near the freezing point, winds or air drainage often keep the air in motion and prevent frosts. On the contrary, winds, when dry, strong or cold, unless modified by windbreaks or physical features may prove to be detrimental in their effects upon vineyards.

The soil.—Fertility, the physical characters and conditions and soil heat are important factors in determining the suitability of a soil for grape-growing.

Great natural fertility is unnecessary. Soils too rich produce an overdevelopment of the vine at the expense of hardiness and fruitfulness. Some species grow naturally upon poor light soils. Fertilizers, and especially cover crops and stable manure, can be used to supply very largely a natural lack of fertility.

The grape is influenced more by the physical character of the soil than by fertility. The two distinct types of soils in agricultural regions are sand and clay; the soil takes the characters of the one which predominates. These two types produce a similar growth of vine, but have a different influence upon the quantity and quality of the fruit. As compared with the sandy soil, the clay is more compact, more retentive of moisture, and cooler. Grapes prefer a light friable soil to one more compact. Lightness and friability can be increased by cultivation and sub-soiling or by the use of cover crops and stable manures. A suitable condition of the soil should precede the planting of a vineyard.

The preference which a number of varieties show for sands, loams, shales and gravels depends largely upon the heat found in such soils. The farther north, or the longer the season required for ripening, the greater becomes the necessity for a warm soil. Soil heat can be influenced by drainage, by the addition of humus, or by cultivation. The grape is no more exacting as to soil requirements than other fruits, but the necessity of selecting a suitable soil, coupled with favorable climatic conditions for its commercial culture, needs no stronger argument than the fact that in New York we have the viticulture of the State centered in four comparatively small districts, while commercial success with the grape appears to be impossible on much larger areas which produce good crops of other products, even fruits.

Insects and fungi.—Since the advent of spraying and a more accurate knowledge of the life cycles of insects and fungi, their ravages have become more and more within the control of man and their influence upon grape-growing of less importance, and there are some favored vineyards in which neither insects nor fungi are troublesome. Nevertheless, instances where promising viticultural ventures have been wiped out of existence, or survive only as a result of constant and expensive combative measures, still place insects and fungi as factors requiring careful consideration.

GRAPE DISTRICTS OF NEW YORK STATE.

THE CHAUTAUQUA DISTRICT.

The Chautauqua grape belt extends along the southeastern shore of Lake Erie, averaging about three miles in width, and is about fifty miles long. It lies in Erie and Chautauqua counties; its northeastern boundary is not far from the Erie-Chautauqua line; its western limit is an arbitrary division—

the New York-Pennsylvania line—for the district passes into Pennsylvania.

Elijah Fay planted the first grapes in this district in 1818; they were wild vines of *Vitis labrusca* from New England. In 1822 he planted roots of Millers Burgundy, Sweetwater and Black Hamburg. These were not as successful as the first, and the real start was made in 1824 when Mr. Fay planted Catawba and Isabella vines secured from Prince of Long Island. These vines were trained on trellises and covered an area two by eight rods in extent. The sale of grape vines was started by Lincoln Fay in 1834; but few were sold, for in 1859 there were only twenty acres of bearing vines in the town of Portland. In the decade following, the Concord was introduced, and in 1870 there were about 600 acres in Chautauqua County. The first carload of grapes was shipped from Chautauqua County in 1880; the shipment was made to Philadelphia by Jonas Martin. In 1900 the shipment reached 8,000 carloads and in 1906, 5,634 carloads. This apparent decrease is accounted for by the large quantities used locally for wine and grape juice. According to a canvass made by this Station in the preparation of "The Grapes of New York" the acreage of the district was, in 1906-7, distributed approximately as follows: Portland, 9,500; Westfield, 5,700; Ripley, 5,700; Pomfret, 4,600; Hanover, 1,950; Sheridan, 1,950; Dunkirk, 600; making a total of about 30,000 acres of grapes. According to the figures gathered 90 per ct. of this acreage was set to Concord, 3 per ct. to Niagara, 2 per ct. to Worden, 1 per ct. each to Moore Early and Catawba, with the remainder made up of a dozen or more varieties, of which Delaware leads.

The grape belt proper is on a comparatively low, narrow plain, bordering the southeastern shore of Lake Erie and extending back from the lake bluff to the hill or escarpment, which rises from 500 to 700 feet above the plain and 500 to 1,000 above the lake. The plain is gently rolling and everywhere may be seen ancient beach lines, ascending in from two to five well defined terraces which rise above the lake bluff with a grade of from one to two hundred feet to the mile. The plain, the terraces, and the escarpment form the chief natural topographical features of the district.

The soils, as mapped by the Bureau of Soils of the United States Department of Agriculture, are Dunkirk clay, Dunkirk gravel, Dunkirk gravelly loam, Dunkirk sandy loam and Dunkirk shale loam. Back from the lake east and west from Barcelona, in the region of Van Buren, and about Dunkirk, are found the largest areas of Dunkirk clay, which ranges from a few inches to a foot in depth, resting upon a stiffer and more tenacious clay. It was upon the Dunkirk gravel, which is found upon the terraces at the foot of the "hill," that grapes were first grown. This soil is a week or more earlier than other soils and is largely planted to early varieties. The Dunkirk gravelly loam runs practically the whole length of the belt at the base or on top of the gravel ridges and is underlaid at a depth of about three feet with sand and shale fragments. This soil produces a growth similar to that on the gravels, though with some varieties it is claimed the berries are larger and with other the amount of wood is greater. The largest areas of Dunkirk sandy loams occur east and west of Dunkirk and Fredonia, bordering the lake in large irregular areas or extending back from the bluff to the escarpment. Other areas occur about Brocton and Portland and smaller ones east of Barcelona and northwest of Ripley. This soil is brownish yellow, is found on undulating land, ranges from six to twelve inches in depth, and produces good crops. The Dunkirk shale loams are found upon the escarpment and are farthest from the lake. The soil is thin, brown in color, has considerable shale on the surface and is underlaid with heavy clay. Grapes from this soil are high in flavor, contain a good amount of sugar, mature early, and are much sought for in making wine.

The climatic conditions of the Chautauqua district are especially favorable. The high escarpment running its whole length confines the lake influence to a narrow space, tempering the inshore breezes of the day and off-shore breezes of the night. These keep the air in nearly constant motion, averting frosts in spring and autumn and preventing the formation of heavy dews and fogs.

The Chautauqua district has a system of pruning and training peculiar to itself. Posts six to eight feet in height are set every third vine, with two wires running through the row; the lower one 28-32 inches above the ground and the upper 22-36 inches above the first, each varying in height according to the size or age of the vine. The arms are tied to the lower wire and the canes and shoots to the upper. Cultivation varies greatly but is thorough by the best growers. Spraying is not generally practiced owing to the freedom of the district from pests.

THE CENTRAL LAKES DISTRICT.

The Central Lakes district is made up chiefly of three distinct localities about Keuka, Canandaigua and Seneca Lakes, though the vineyards of this region are in the five counties of Ontario, Yates, Schuyler, Steuben and Seneca. Vineyards surround Keuka Lake in Yates and Steuben counties, the southern half of Seneca, and all except the lower end of Canandaigua Lake. There are less extensive plantings about Naples, Bath and Romulus. The soil, climate, varieties and methods of culture are so similar in all these areas that they can easily be grouped into one district.

Unlike the first attempts in the Chautauqua district, the first plantings made in this district at Hammondsport, in 1836, by Rev. William Bostwick, were successful. The varieties were Isabella and Catawba. Scattered plantings in gardens about Keuka followed this attempt. In 1853 Andrew Reisinger, a German vine-dresser, planted a commercial vineyard of two acres of Isabellas and Catawbas at Harmonyville. Two years later Hon. Jacob Larrowe and Mr. Orlando Shephard planted small vineyards of the same varieties in Pleasant Valley near Hammondsport, and were so successful that they increased their plantings in 1858. Their example was soon followed by others and in 1860, 200 acres were set in Pleasant Valley alone, with large plantings in other places about Keuka Lake. The first plantings were made on the Yates side of Keuka Lake in 1855 when Mr. W. W. Shirland set a small vineyard to Isabellas. The first plantings about Canandaigua and Seneca lakes seem to have resulted from the spreading of the industry from the Keuka region. The dates and places of the first plantings are not known but there is evidence of plantings about Avon before those in Pleasant Valley. Mr. J. W. Prentiss made the first commercial shipment from this region in 1854, when he sent a ton of Isabellas, packed in tubs, to New York. A second ton sent by him "broke" the New York market. The Concord and Delaware were introduced into this region the same year; the first was introduced by John Mead, of the town of Benton, and the latter by Henry Rose of Penn Yan. Wine-making began about 1860 and the manufacture of wine, brandy, and champagne, has since developed into an important industry. About twenty-five companies are now found mostly centered about Keuka Lake. The acreage of the several counties in this region is estimated as follows: Yates, 7,940· Steuben, 5,570; Ontario, 2,630; Schuyler, 1,014; Seneca, 1,540; making a total of 18,694 acres. The principal varieties grown in this region are Catawba, Concord, Delaware and Niagara.

The topography of the region is more or less rough and broken; steep hillsides of the lakes formed both by erosion and tilting of the land, ranges of hills, and moraine deposits all combine to give character to the district.

Deep narrow lakes, occupying what are generally agreed to be preglacial valleys, temper the climate so that it is much less severe than in adjacent territory. Seneca Lake is so deep and its water so slow in cooling, that it has been known to freeze over only a few times in a century. Ranges of hills protect enclosed valleys. The high banks of the lakes protect the vineyards along the lakeward slopes from winds while the water from the lakes equalizes the night and day temperatures during the growing season, preventing frosts and severe winter freezing. These influences, acting together, give to this district a long range of season, which ripens grapes one to two weeks earlier than the Chautauqua belt.

The soils of this district, being of glacial origin, vary much in composition and texture; though in general nearly all of the grape soils of the Chautauqua district are to be found, with probably the Dunkirk clay loam predominating. In many places along the lakeward slopes, on the hills and moraines, the land is rough and stony with a thin covering of soil.

Different methods of pruning and training are used, but the high renewal system is used by most growers. In this system a trellis having three wires is used; the first is about 20 inches above the ground, with the others placed above it at intervals of 18 inches on the posts. The head of the trunk is twenty to thirty inches high above ground. New canes are brought out from renewal stubs or the head of the main trunk and tied to the wires above. This system is well adapted to the vine growth of the Catawba and Delaware. Thorough cultivation is practiced and fall cover crops are coming into favor. Insects are less troublesome and fungi more so in this district than in the Chautauqua district.

THE HUDSON RIVER DISTRICT.

The grape region along the Hudson River forms the third largest district of New York. The vineyards are, for the most part, found in Orange, Ulster, Dutchess and Columbia counties.

The first plantings in this district were made at Croton Point, in 1827, by Robert Underhill and his two sons, R. T. and W. A. Underhill. The varieties set were Catawba and Isabella; the vineyard was subsequently enlarged to cover about seventy-five acres and for some time practically supplied the market of this district. In 1829, Rufus Barrett of New Paltz, who probably received his inspiration from a colony of French Huguenots with whom he lived, began shipping Isabella grapes to New York. Two years later John Jacques, a Frenchman, secured vines of Isabella and Catawba from Prince of Long Island, and planted a vineyard at Washingtonville, Orange County, some vines of which still live and are probably the oldest vines in New York. In Ulster County near Clintonville, William T.

Cornell set a vineyard to Isabella in 1845. The Census Report for 1890 places the vineyards of this District at 13,000 acres; the reports ten years later showed a decrease of nearly one-half; an estimate in 1906-7 by this Station, places the present acreage by counties as follows: Columbia, 865; Dutchess, 488; Orange, 865; Ulster, 4,021; making a total of 6,199. This decrease is largely due to the discarding of a number of old vineyards, planted with worthless varieties, or too many of them, and the giving up of plantations poorly set or located. Indications now point to a prosperous condition for the district. Of the varieties grown in this region Concord leads followed by Delaware, Niagara, Worden, Moore Early, Bacchus, Pocklington, Campbell Early, Hartford, Vergennes and a large number of minor varieties.

The Hudson River district may well be called the birthplace of American viticulture; here is to be found the oldest winery, the oldest vineyard, the first distributing point, the greatest number of varieties; and lastly there has been centered in this region a corps of viticulturists, whose memories will long be perpetuated by horticulturists.

The soils of this district are clay or gravelly loams with more or less coarse fragments of slate or shale. They have been formed from limestones, schists, shales and slates, of the geologic formation known as the Taconic Province. This province is a broad valley taking in Orange, parts of Ulster, Dutchess and Columbia counties in New York and extending westward across northern New Jersey into Pennsylvania. The land is more or less hilly and rolling, with some broad undulating plains.

In the southern Hudson Valley where grapes are grown, there is a wide range of temperature, and a comparatively light rainfall during the growing season with the maximum in July. The temperature in the grape district is high in the summer owing to the southern winds and physical features of the country, and low in winter. The high summer temperature and relatively light rainfall in the growing season are very favorable to grape growing.

In the early attempts of grape growing in the Hudson Valley the European methods of training were often used. Experience with native varieties soon showed that vines should be trained so that a larger surface should be exposed to sunshine. Different methods of pruning in the District soon arose but the one which soon came into general use originated in Ulster County with William Kniffin and still bears his name. This method of training is sometimes called the drooping system as contrasted with the upright systems of the two former districts. The trunk extends to the top wire; the canes are tied horizontally to both wires on either side of the trunk, and the bearing shoots allowed to droop downward. The growers believe this system to be well adapted to the strong-growing varieties.

There is little uniformity in the packages used in this district owing to the diversity in nearby market demands. It is surpassed by none in its shipping facilities and markets. The fungus diseases are more destructive than the insect pests; black-rot being epecially troublesome in some sections. Spraying has not been generally practiced, and the decrease in acreage during the past decade has been increased by fungus diseases.

THE NIAGARA DISTRICT.

The Niagara district is the smallest and of the most recent development of any of the grape districts of New York. It borders the Niagara River in Erie and Niagara counties, and the southern shore of Lake Ontario in Niagara, Orleans, Monroe and Wayne.

Up to 1886 when the Niagara grape was introduced into this district, there were but few vineyards along the Ontario Shore. During the few years following, heavy plantings of this variety were generally made and it soon became evident that the region was well adapted to grape-growing, except in minor unfavorable localities which were soon abandoned for this purpose. In 1906-7 the acreage in this district was approximately distributed as follows: Erie County, 2,100; Niagara, 1,250; Orleans, 375; Monroe, 700; Wayne, 380; making a total of 4,800 acres.

Conditions in the southern part of this district, in Erie County, are similar to those described in the Chautauqua belt. The grape lands along the Ontario Shore are upon the Ontario Plain, which extends from the Niagara River, along the southern shore of the lake for nearly its entire length. The plain varies from four to nine miles wide and like the Chautauqua belt is bounded on the southern side by a high escarpment or "the mountain," though its influence is less marked. The surface of the plain is more or less rolling in its general character.

The prevailing soils are sandy, gravelly or clay loams, though in some parts stony and shaly. As far as they have been classified, they belong to the Dunkirk series.

Climatic conditions here are similar to those in the Chautauqua belt. As compared with inland sections, the summer temperature is more even and the winters less severe; the rainfall and dews are lighter; the fall frosts much later and the growing season longer. The winter months are characterized by much cloudy weather.

Concord and Niagara are grown chiefly; and, in the main, are marketed in Buffalo, Niagara Falls, Rochester and other nearby towns, or shipped to eastern markets. Black-rot is very destructive in the Niagara vineyards owing to the susceptibility of the variety.

SPECIES OF GRAPES.

An inspection of the parentage of the 161 varieties mentioned in the table beginning on page 150, will show that there are seven species represented. Of these, all are crosses or hybrids, except twenty-five, twenty-four of which are pure Labrusca. In sixty varieties the two species, Labrusca and Vinifera are represented; in twelve, Riparia and Labrusca; in eight, three species, Riparia, Labrusca and Vinifera; while in one, Manito, there are five. Further analysis shows the relative importance of each species in breeding and the extent to which it has been used as a parent. Out of the 161 varieties, Labrusca blood is found in 156, Vinifera in 104, Riparia in 27, Bourquiniana in 25, Aestivalis in 15, Lincecumii in 10, and Rupestris in 5. While in a number of varieties the immediate parents are unknown and identification is made possible only by the "ear marks" shown by vine and fruit characters of the different species, in others the parentage has been carefully and accurately recorded by the breeder. In either case the significance of species in crosses and hybrids, with their characteristics, and incident strength or weakness, is worthy of brief mention.

Vitis aestivalis.—The natural habitat of Aestivalis is from New York and New Hampshire south to Florida and westward to Kansas and Texas. It is vigorous in growth, with slightly pubescent, medium to rather thick canes, with heavy bloom; tendrils intermittent; leaves usually small, entire, three and five-lobed, bluish underneath; berries are small to medium, blue or black, tart and spicy, rich in coloring matter. Aestivalis is primarily a southern species, hardy, resistant to insects and fungi, endures drouth well, and in the wild is adaptable to a wide range of conditions. It has been little used in breeding, ripens late, and has little promise horticulturally for the North.

Vitis bourquiniana.—Bourquiniana is supposed to be of hybrid origin; its natural habitat and consequently its wild form have not yet been found. It differs from Aestivalis in having thinner leaves, slightly reddish, brown shoots and under side of leaves, larger and sweeter berries and more deeply lobed leaves. Bourquiniana is represented by a number of southern varieties, Delaware being the only important northern variety supposed to have a portion of its blood. It promises to be of more value for the south than the north.

Vitis labrusca.—This species is indigenous to the Atlantic coast plain from Maine to Georgia. Wild vines have also been found in the Ohio River basin. The vines are moderately vigorous in growth, shoots climbing, densely pubescent, with thick diaphragms and continuous tendrils; leaves large, thick, entire or three-lobed, very woolly on under side; clusters small, compact; berries medium to large, blue, red or white in color, shatter badly, with a very foxy odor. From this species came most of our cultivated varieties—156 out of 161 varieties mentioned in this bulletin have Labrusca blood in them. Labrusca is adaptable to a wide range of conditions under cultivation, is hardy, productive, and resistant to diseases; it is of first importance horticulturally in America east of the Rocky Mountains. The grape breeder has used it, with promising results, in crosses with other species. " Ear marks " of this species are continuous tendrils, thick diaphragm, heavy pubescence, thick leathery leaves, foxy odor of fruit, shattering of the berries and large number of clusters per shoot.

Vitis lincecumii.—The home of this species is eastern Texas, western Louisiana, Oklahoma, Arkansas and southern Missouri. Growth vigorous, climbing or growing in clumps; shoots covered with rusty wool, tendrils intermittent; leaves very large, entire, three, five or rarely seven lobed, with rusty pubescence below; fruit ranges from small to large, typically black with heavy bloom. Being a southern species it requires a longer season to mature than that of New York, but its vine and fruit characters make it of interest to the southern breeder.

Vitis riparia.—The natural range of Riparia far exceeds that of any other of our native species; it is found from New Brunswick and Quebec southward to the Gulf of Mexico and west to the Great Salt Lake in Utah. Over this wide area it is found mostly in the river valleys and upland ravines. Vine vigorous to very vigorous, climbing; shoots smooth, slender; tendrils intermittent, diaphragm thin; leaves medium to large, thin, entire, shallowly three to five lobed, usually glabrous above, hairy or lightly pubescent below; cluster medium to small, compact; berries small to medium, black, with blue bloom. The strong vine characters of Riparia have brought it into extensive use as a stock, but on account of the poor fruit there is not a single variety of the species of more than local importance. The breeder has used it sparingly in crosses and hybrids and it is found in only 27 of the varieties listed here. The species is characterized by thin, smooth leaves, intermittent tendrils, thin diaphragm, slender vigorous growth.

Vitis rupestris.—Rupestris is a southern species, indigenous to southwestern Texas, eastern New Mexico, northward and south from southern Missouri, Indiana, Tennessee, Pennsylvania and the District of Columbia. The vine is typically a small, strongly branched upright shrub, rarely climbing; diaphragm thin, tendrils few, weak, usually deciduous; leaves small, glossy, folded, entire, glabrous on both sides; berries small, black or purple. It is hardy, drouth resistant, the roots growing deep into the soil instead of laterally, foliage not subject to rot or mildew. Of interest to the breeder as a hardy parent, though it has been used but little. The habit of growth and characteristic leaf render it easily detected in hybrids.

Vitis vinifera.—The original home of *Vitis vinifera* is probably somewhere in western Asia. Botanists have never agreed as to whether it is an elementary species or a combination of two or more, the original forms of which are obsolete. The vigor of the vine is variable in our climate, not so high climbing as some American species; tendrils intermittent; leaves rather thin, three, five or seven-lobed, usually glabrous, in some varieties hairy or downy when young; berries oval, very persistent to pedicel, flesh and skin adhering; very variable species in vigor, hardiness and shape and color of fruit. As mentioned previously *Vitis vinifera* has been very freely used by the American grape breeder in making hybrids with native species; 104 of the varieties mentioned have Vinifera blood to a greater or less extent. Unfortunately in all cases where there is Vinifera blood there is a correlated weakness in vine. Hardiness and resistance to disease are sacrificed in increasing the quality of the fruit.

It will be seen that there is a marked difference in the habitat, manner of growth, horticultural value and botanical characters of the different species. Descriptions in the table will show, in the variety, fruit and vine characters of the species. For example, we associate oval or oblong fruit, high quality, and weakness of vine with Vinifera; continuous tendrils, thick diaphragms and foxy fruit with Labrusca and thin diaphragm with Riparia. A careful analysis of varieties, from the standpoint of the species, will avoid many plantings of varieties, unsuitable on account of lateness, lack of hardiness or undesirable fruit characters, on the part of the grower, and the production and dissemination of many worthless crosses by the breeder.

CATALOGUE OF GRAPES.

ABBREVIATIONS AND MARKINGS.

Berry. Size.—l, large; m. medium; s, small; v, very. Form.—r, round; o, oval; ob, oblong; ov, ovate.

Color.—a, amber; b, black; bl, blue; br, brown; g, green; p, purplish; r, red; w, white; y, yellow; dk, dark; l, light.

Cluster. Size.—l, large; m, medium; s, small; v, very. Compactness.—c, compact; m, medium; l, loose; v, very.

Horticultural status.—**, well recommended; *, recommended; +, worthy of trial; —, undesirable.

Fertility of flower.—f, self fertile; s, self sterile; pf, semi-fertile; ps, semi-sterile; —, after f or s indicates nearly fertile or nearly sterile.

Flavor.—a, acid; ar, aromatic; f, foxy; j, juicy; m, mild; r, refreshing; s, sweet; sp, spicy; spr, sprightly; t, tart; v, vinous.

Origin.—Place, abbreviations of states and countries; unk, unknown; date, dates indicate time of origin if known; otherwise date of first reference or time of introduction.

Quality.—b, best; vg, very good; g, good; f, fair; m, medium; p, poor; v, very.

Season.—e, early; m, mid-reason; l, late.

Species.—Aest, *Vitis aestivalis;* Bourq, *Vitis bourquiniana;* Lab, *Vitis labrusca;* Lin, *Vitis lincecumii;* Rip, *Vitis riparia;* Rup, *Vitis rupestris;* Vin, *Vitis vinifera*.

Stamens.—r, reflexed; u, upright.

Tendrils.—c, continuous; i, intermittent; ir, irregular (continuous and intermittent).

Use.—d, dessert; m, market; w, wine.

Number	Variety	Species	Origin	Tendrils	Sexual status	Stamens	Cluster	
							Size	Compact-ness
[1	Adirondac	Lab. Vin.?	N. Y., 1861	c	p—f	u	m+—s	c
2	Advance	Rip. Lab. Vin	N. Y., 1870	i	—	u	m+	m
3	Agawam	Lab. Vin	Mass., 1851	i— c	f	u	m—l	m—
4	Alexander	Lab. Vin.?	1804, —	—	—	—	—	c
5	Alexander Winter	Lab. Vin.?	Ohio, 1884	i	s	r	m+—s	l
6	Alice	Lab. Aest.? Vin.?	N. Y., 1884	i	f	u	m	m—c
7	Allens Hybrid	Lab. Vin	Mass., 1843	—	—	—	m—l	c
8	Amber Queen	Vin. Rip. Lab	Mass., 1870	i—c	s	r	m	l—m
9	Ambrosia	Lab. Vin	N. Y., 1884	c	f	u	l—m	c—m
10	America	Lin. Rup	Tex., 1892	i	s	r	ab m	c
11	Amethyst	Lab. Vin. Bourq	Tex., 1898	c	f—	u	m—l	c
12	Aminia	Lab. Vin	Mass., 1851	i	s	r	m—s	l
13	Antoinette	Lab	N. J., 1872	c	f	u	m—s	m
14	August Giant	Lab. Vin	Mass., 1861	c	s	r	m	m
15	Autuchon	Rip. Lab. Vin	Can., 1859	—	—	—	l	l
16	Bacchus	Rip. Lab	N. Y., 1879	c	s	u	s—m	c
17	Bailey	Lin. Lab. Vin	Tex., 1877	i	f	u	l	c
18	Banner	Lab. Vin. Bourq	Ark., 1898	—	—	—	l	vc
19	Barry	Lab. Vin	Mass., 1851	i	s	r	m—l	c
20	Beacon	Lin. Lab	Tex., 1887	i	f—	—	l	c—m
21	Beauty	Lab. Vin. Bourq	Mo., 1877?	c	f?	—	m	c—m
22	Bell	Rip. Lab. Bourq. Vin	Tex., 1881	i	f—	u	m	c—m
23	Berckmans	Rip. Lab. Bourq	S. C., 1868	i	f	u	m—s	c
24	Black Eagle	Lab. Vin	N. Y., 1866	c	s	r	l—m	l—c
25	Black Pearl	Rip. Lab	Ohio, 1877?	—	s	r	s—m	m—c
26	Brighton	Lab. Vin	N. Y., 1870	c	s	r	vl—m	m—l
27	Brilliant	Lab. Vin. Bourq	Tex., 1883	i	f	u	m	m—c
28	Brown	Lab. Vin	N. Y., 1884	c	f—	u	m—s	l—m
29	Campbell Early	Lab. Vin	Ohio, 1892	i	f	u	vl—m	c—m
30	Canada	Rip. Lab. Vin	Can., 1860		s—	u	m	vc

Number	Berry		Color	Flavor	Quality	Season	Use	Horticultural status	Remarks
	Size	Form							
1	m	r	p b	s	g—vg	e	d	—	Slow grower; injured by severe weather. Nearly obsolete.
2	m—l	o	p b	sp	g	m	—	—	Not hardy, subject to mildew. Nearly obsolete.
3	l	r—o	p r	f	g	m	d w m	*	*Rogers No.* 15. Keeps well. Later than Concord.
4	m	o	b	m	—	l	w	—	Of historical interest; not grown now.
5	m—l	r	r	v	g—vg	—	d	—	A good keeper; sets fruit imperfectly; ripens unevenly.
6	m—s	r	r	v f	g	m	d	—	Of little value in New York.
7	m—l	r	w—y w	s v	g	e	d	—	The first named hybrid to be disseminated. Obsolete.
8	m	r—o	dk r	f	g—vg	m	d	—	Undesirable except in favored localities.
9	l—m+	sl ob	g—yg	s	m—vg	m	d	—	Has not found favor with grape growers.
10	m—s	r	b	s v	g	m	w	+	Keeps well. May have value as a wine grape.
11	ab m—s	r—o	dk r	v s	g—vg	m	d w	+	Worthy of trial for home use.
12	m	r	b	f s	g	e	d	—	Surpassed by other early grapes for home use.
13	l—m	r	g—gy	sl f	g—vg	m	d	—	Excelled by other white grapes of its season.
14	l	o—r	pr—b	t	g	m	d	—	Desirable as an ornamental vine. Quality high.
15	m	r	g	spr	—	m	w	—	Not resistant to cold and diseases; an unreliable bearer.
16	m—s	r	b	vs	m	l	w	*	A desirable grape for dark red wine. Hardy and productive.
17	m—l	r	pb—b	v	g	l	d	—	Too late for New York except in favorable seasons.
18	m	r	ar	s	g—vg	m—l	dm	+	Worthy of trial.
19	l	o—r	pb—b	vs	above m	m	dm	*	Keeps well. Recommended for home use.
20	m	r	pb—b	v sp	g	m	d	—	Ripens with Concord. Not adapted to New York.
21	m	r	bb—b	sp v	g	m—l	dw	—	Practically lost to cultivation.
22	m—s	r	g—yg	s	f	m	—	—	Not recommended for New York.
23	m	r—o	dk r	vs	g	m	d	+	Fruit and vine characters very good in some soils.
24	l	o	b	v s t	g	m	d	+	Not a commercial variety.
25	bl m—vs	r—o	b	sp t	m	l	w	+	Resembles Clinton and makes good red wine. But little known in New York.
26	m—l	r—o	r	vs	vg	m	dm	**	High quality, productive; earlier than Concord; a good market grape .
27	m—l	r—o	dk r	vs	g—vg	m	dm	*	Ships and keeps well; grown somewhat for market.
28	m	r—o	b	f m	g	e	d	—	Once thought to be promising but has proved inferior to other varieties.
29	l	r	pb	sl v	g	e	dm	**	One of the standard commercial grapes of New York.
30	m—s	r	pb—b	sp v	m—f	m	w	*	Well known in New York as a wine grape.

Number	Variety	Species	Origin	Tendrils	Sexual status	Stamens	Cluster	
							Size	Compactness
31	Canandaigua........	Lab. Vin..........	N. Y., 1897?	ir	s—	r	l—s	l—m
32	Captain...........	Lin. Rup. Lab Vin..	Tex., 1901	i	p f	u	l	l
33	Carman...........	Lin. Vin. Lab. Bourq.	Tex., 1892	i	f	u	av m	c
34	Catawba..........	Lab. Vin..........	N. C., 1823	i—ir	f	u	l—m	m—c
35	Cayuga............	Lab. Vin.?........	N. Y., 1886	c	p s	u	m	m
36	Centennial.........	Lab. Aest. Vin.....	N. Y., 1875	—	—	—	m—s	c
37	Champion..........	Lab..............	Am., 1870	c	f	u	m—s	m—c
38	Chautauqua........	Lab..............	N. Y., 1892	c	—f	u	m—l	m
39	Clevener..........	Lab. Rip. Aest.....	unk., 1867?	c	s	r	s—m	m
40	Clinton...........	Rip. Lab..........	N. Y., 1823	ir	f	u	m—s	c
41	Cloeta............	Lin. Rup. Lab. Vin.	Tex., 1902	i	f?	u	m—s	m
42	Colerain..........	Lab.	Ohio, 1880	c	f	u	m	m
43	Columbian Imperial..	Lab. Rip..........	Ohio, 1885	c	f	u	m	m
44	Concord...........	Lab..............	Mass., 1843	c—ir	f	u	l—m	c
45	Cottage...........	Lab..............	Mass., 1868	c	f	u	ab m—s	c
46	Creveling..........	Lab. Vin..........	Pa.,? 1857	c	s	r	m	l
47	Croton............	Vin. Lab. Bourq....	N. Y., 1863	i	f	u	vl—m	l—m
48	Cynthiana.........	Aest. Lab.........	Ark., 1863	ir	f?	u	m—s	c
49	Daisy.............	Lab. Vin..........	Kan., 1886	c	s	u	m	l
50	Delaware..........	Lab. Bourq. Vin....	N. J.,? 1849	i	f	u	m—s	c
51	Delawba..........	Lab. Vin. Bourq....	Tenn., 1880	—	f	—	m—l	m
52	Diamond..........	Lab. Vin..........	N. Y., 1870	i	f	u	m—l	c
53	Diana.............	Lab. Vin. Aest.....	Mass., 1834	i	f	u	m—l	c—m
54	Downing..........	Vin. Aest. Lab.....	N. Y., 1865	i	f?	u	l	l—c
55	Dracut Amber......	Lab..............	Mass., 1855	c	f —	u	m	c—m
56	Dutchess..........	Vin.? Lab. Bourq.? Aest.?.........	N. Y., 1868	i	f	u	l—m	m—c
57	Early Daisy.......	Lab..............	Pa., 1874	c	s	—	s—m	c

Number	Berry		Color	Flavor	Quality	Season	Use	Horticultural status	Remarks
	Size	Form							
31	l—m	o—r	b	s	g	m—l	d	+	One of the best keepers. Worthy of growing for home use.
32	l—m	r	b	t	f	m	—	—	Of little value in New York.
33	s—m	r—ob	pb—b	v sp	g—vg	l	d	—	Long keeper but too late for New York.
34	m	o—r	pr	vs	vg	l	dwm	**	One of the four leading commercial varieties in New York.
35	m—l	rp—b	rp—b	vm	f—g	e	d	—	Not a commercial variety.
36	m—s	—	r—a	s	g—vg	m	d	—	Excelled by better varieties; lacks vigor and hardiness.
37	m—ab m	r	b	f s t	p	e	m	*	An early market grape, ships well, is hardy but poor in quality.
38	l	r—o	pb	vs	g—vg	e	d	—	Surpassed by Concord.
39	s—m	r—ob	b	s	m	l	w	—	Makes a good dark red wine.
40	s—m	r	pb—b	s v t	m	l	w	—	A variety of historical interest, but little grown now, being surpassed by better wine grapes.
41	m—s	o—r	b	s sp	m—f	l	d	—	Not suited to New York.
42	m	r—o	g	f v s	g	e	d	+	A good early white grape for home use.
43	l	r—o	rb	a s	f—g	l	—	—	Of little value; of interest on account of large size.
44	ab m—l	r	b	s sl f	g	m	dm	**	Hardy and productive. The standard market grape of New York.
45	m	r	b	f s	g—m	e	dm	*	Ships and keeps well. A desirable early grape of Concord type for home use or market.
46	m—l	o	b	f s	g	e	d	+	A light bearer; not grown commercially but is found in varietal vineyards.
47	m	r—o	g—yg	v s	g—vg	m	d	*	Difficult to grow, tender. In suitable localities surpassed by none of the green grapes for home use.
48	s	r	b	s t	p	l	w	—	One of the best for red wine. Cannot be grown in New York.
49	m—s	o	r	v s	g	m	d	—	Not worth perpetuating.
50	s—m	r	l r	v sp s	b	m	dm w	**	The standard American grape for quality. Used extensively for home use, market and wine.
51	av m	—	a	—	g—vg	m	d	+	Worthy of trial because of high quality.
52	ab m—m	r—ov	g—yg	sp	vg	m	dm w	**	One of the best white grapes. Worthy of more general cultivation.
53	m	r—ov	l r	v f s	g	m	d	+	Not hardy. A good grape for home use.
54	l—m	o	p b	v m	vg	m	d	+	Keeps well, high in quality. A good grape for home use. Not hardy.
55	m—l	o—r	dk a	vf	p—m	m e	d	—	Hardy; poor in quality.
56	m	r—o	yg—a	vs	vg—b	m	d	*	Subject to fungi; not hardy. Excelled by few for home use.
57	m	r	b	t	p	e	d	+	Though not in favor with grape growers, its earliness should recommend it.

Number	Variety	Species	Origin	Tendrils	Sexual status	Stamens	Cluster	
							Size	Compact-ness
58	Early Dawn	Lab. Vin. Aest	N. Y., 1870	i	s	r	m—l	m
59	Early Ohio	Lab	Ohio, 1882	c	f	u	m	m
60	Early Victor	Lab. Bourq	Kan., 1871	c	f—	u	m—s	c
61	Eaton	Lab	N. H., 1868	c	pf	u	l—m	c—m
62	Eclipse	Lab	Ill., 1890	c	s	r	m	m
63	Eldorado	Lab. Vin	N. Y., 1870	i	s	r	av m	—
64	Elsinburgh	Vin. Aest	N. Y.,? 1827	i	—f	u	m—l	l—m
65	Elvicand	Can. Rip. Lab	Tex., 1892	—	f	u	s	l
66	Elvira	Rip. Lab	Mo., 1863	c	f	u	m	c
67	Empire State	Rip. Lab. Vin.?	N. Y., 1879	i	f	u	l—m	m—c
68	Essex	Lab. Vin	Mass., 1852	ir	s	r	m—l	c
69	Etta	Rip. Lab	Mo., 1879	c	f	u	m—s	vc
70	Eumelan	Lab. Vin. Aest	N. Y,. 1847	i	s	r	m	c—m
71	Eureka	Bourq. Lab. Vin	Kan., 1880	—	—	—	ab m—m	m
72	Excelsior	Vin. Lab	N. Y., 1880	i	—	—	l	l
73	Faith	Rip. Lab	Mo., 1881	c	s	u	m—s	l
74	Fern Munson	Lin. Vin. Lab	Tex., 1885	i	pf	u	m—l	m—l
75	Gaertner	Vin. Lab	Mass., 1852	c	s	r	ab m—m	l
76	Geneva	Vin. Lab	N. Y., 1874	ir	pf	u	m—ab m	m
77	Glenfeld	Lab	N. Y., 1889	ir	f—	u	l—m	l—c
78	Goethe	Vin. Lab	Mass., 1852	c	pf	u	m	m
79	Goff	Lab. Vin. Aest	N. Y., 1885	c	f	u	l—m	c
80	Gold Coin	Aest. Lab	Tex., 1883	c	f—	u	m—s	m
81	Grein Golden	Rip. Lab	Mo.,? 1877	i	s—	r	l	l—m
82	Hartford	Lab. Vin	Conn., 1849	c	f	u	ab m	l
83	Hayes	Lab. Vin	Mass., 1872	i	s	u	m	m
84	Headlight	Vin. Lab. Bourq	Tex., 1895	c	s	r	s	c
85	Herbemont	Bourq	South,? 1825	i	f		l	c
86	Herbert	Lab. Vin	Mass., 1852	i	s	r	m—l	l
87	Hercules	Lab. Vin	Ill 1892.,	c	s	r	vl—m	m—c
88	Hicks	Lab	Cal.,? 1898	c	f	u	l—m	m

Number	Berry		Color	Flavor	Quality	Season	Use	Horticultural status	Remarks
	Size	Form							
58	s	r	p b	v t	f—g	e	d	—	Weak in vine characters.
59	m	r	p b	s a	p	e	d	—	Grown to some extent but going out of favor.
60	s—m	r—ob	dk pb	ar v s	g	e	d	+	High in quality for an early grape; is but little grown and deserves a better place in viticulture.
61	l—vl	r	b	f	f	m	d	+	A large seedling of Concord.
62	l—m	sl ov	b	f s t	g	m e	d	+	A new grape, being a seedling of Niagara. Worthy of trial.
63	l—m	r	yg—y	f s m	g—vg	e	d	+	A high flavored early grape, of little commercial value but of some interest to amateurs.
64	s	r	b	vs	g	m	w	—	An old variety now rarely cultivated.
65	m	r	b	m suba	f g	l	—	—	Of little value.
66	m	r—ob	g—gy	f s	f	m	w	+	Grown for a light wine.
67	m	r	yg	s	g—vg	m	d w	**	One of the standard green grapes of high quality.
68	l—m	r—o	pb	vs	g—vg	m	d	—	Not hardy; self-sterile. Surpassed by better black grapes of its class.
69	m—s	r	g—yg	f s	m	l	w	—	Too late for New York.
70	m	r	b	sp ar	g	e m	d w	+	Its good qualities should recommend it.
71	m	r	dk r	ar av	g	m	d	—	A seedling of Delaware and surpassed by it in nearly all desirable characters.
72	l—m	o—r	dk r	s spr	g—b	l	d	+	A good grape but too late for New York. Of interest to amateurs.
73	s	r	g—yg	st	f g	m e	d?	—	Of little value for New York.
74	m—l	r—ob	pb	v suba	g	l	d	—	Not hardy in New York.
75	l—m	r—o	dk r	v s t	g—vg	m	d	+	Deserving better recognition.
76	m—l	o—ob	g—gy	v s t	f—g	m	d	—	Surpassed by other grapes of its season.
77	l—m	r	olive g	st	g	m	d	—	Excelled by others of its season.
78	vl—ab m	o—r	r	st spr	g—vg	l	d w	—	Very vigorous, hardy; ripening too late for most seasons in New York.
79	l—m	ob	dk rp	v s v	vg	m	d	+	A new grape of high quality; an excellent keeper.
80	l—m	r—o	y g	ar t	g	l	d w	—	Too late for New York.
81	l	r	lg—gy	va	m—g	m	w	—	Does not reach its best quality in New York.
82	ab m	r—o	b	f s	m	e	d	—	Superseded by better early grapes of its season.
83	m—s	r	gy	v s t	g	e	d	—	Better grapes of its season for New York.
84	m—vs	r	dk r	vs	g—vg	m	d	+	Worthy of trial in both commercial and amateur vineyards.
84	below m	r	r b	spr	g—vg	v l	d w	—	An old Southern variety. Not desirable for Northern climates.
86	ab m	rs	b	t	g—vg	m	d	*	On account of quality, one of the best table grapes.
87	l—vl	r	b	f	f—g	m	d?	—	Of little value commercially.
88	l	r	pb—b	f s m	g	m	d m	+	Very similar to Concord and a little earlier. Promising.

Number	Variety	Species	Origin	Tendrils	Sexual status	Stamens	Cluster	
							Size	Compactness
89	Hidalgo	Vin. Lab. Bourq	Tex., 1902	ir	f—	u	l	m—c
90	Highland	Vin. Lab	N. Y., 1865	i	f	u	l	m
91	Hosford	Lab	Mich. 1876	c	pf	u	m—l	m
92	Hybrid Franc	Vin. Rup	France 1903?	i	pf	u	m	m—c
93	Ideal	Lab. Vin. Bourq.?	Kan. 1886,	i	—	—	l—m	m
94	Iona	Lab. Vin	N. Y., 1855	i	f—	u	av m	m—l
95	Ironclad	Rip. Lab	Unk., 1873?	c	s?	r	s	m
96	Isabella	Lab. Vin	S. C., 1816	c	f	u	l—m	a v m
97	Isabella Seedling	Lab. Vin	Ill., 1889	ir	f—	u	l—m	l—m
98	Israella	Lab. Vin	N. Y , 1855	c	f?	u	ab m	c
99	Ives	Lab. Aest	Ohio, 1840	c	f?	u	m	c—m
100	Jaeger	Lin. Bourq	Tex., 1885	i	f?	u	m—l	vc
101	Janesville	Lab. Rip	Wis., 1858	ir	f	u	m—s	c
102	Jefferson	Lab. Vin	N. Y., 1874	i	f	u	l—m	m—c
103	Jessica	Lab. Vin	Can., 1870?	ir	f—	u	m—s	m
104	Jewel	Lab. Bourq. Vin	Kan., 1874	c	s	r	m—s	m—c
105	Kensington	Vin. Rip. Lab	Ont., 1870	ir	f	u	m—l	l—m
106	Lady	Lab. Vin	Ohio, 1874	i	f	u	av m	c
107	Lady Washington	Lab. Vin	N. Y., 1877	c	f	u	l—m	l—m
108	Lindley	Lab. Vin	Mass., 1852	c	s	r	m	m
109	Lucile	Lab	N. Y., 1888	c	f	u	m—l	vc
110	Lutie	Lab	Tenn., 1884	c	f	u	m—s	c
111	McPike	Lab	Ill., 1890	c	f	—	l	m

Number	Berry		Color	Flavor	Quality	Season	Use	Horticultural status	Remarks
	Size	Form							
89	ab m	o	gy	ar s	vg—b	m	d	+	May prove of value in favorable locations. A new grape of high quality.
90	l	ro	pb—blb	v	g	l	d	+	Though grown for some time it is not widely distributed owing to lateness in ripening.
91	l—m	r—o	b	vs	g	m	d	—	Of doubtful value when compared with others of its season.
92	m—s	ob—r	b	sp t	f	m	w	—	Of French origin. Hardy, vigorous and productive.
93	l	r	dk r	ar	g—vg	m	d	—	May be of value for home use.
94	m	o	r	v	vg	m	dw	*	Demands careful culture; subject to fungus disease, yet a standard in quality. Suitable for home use.
95	s	r	b	sp t	m	m	w	—	Probably one of our oldest varieties. Not a table grape.
96	m	o	b	f s	g	m l	d w	—	Nearly obsolete.
97	l—m	o	b	m s v	g	e	d	+	Grown commercially in New York to some extent but is not an important variety.
98	s—m	r—o	b—pb	m	f	m	d	—	Gradually being dropped from cultivation.
99	m	o—r	b	f s t	f	m	m w	*	An old variety still grown for red wine.
100	m—s	r	b	sp t	g	m	d w	—	A southern grape not maturing well in the North.
101	m	o	b	tart	f	m e	d w	*	On account of hardiness it has a place in regions of severe climates where better varieties cannot be grown.
102	m	o—r	dk r	s v t	g—b	l	d m	+	Lacks hardiness, requires a long season, temperate climate, and careful culture. Few red grapes better.
103	s—m	r	l g	spr s	g—ab g	e	d	+	Recommended in northern regions for its earliness and hardiness.
104	m	r—o	p b	spr v	g—vg	e	d	+	One of the best early grapes for severe climates.
105	av m	o	g—yg	vs	g	m	d	*	Its hardiness and high quality should recommend it for northern gardens.
106	l—m	r	g—gy	ar s	vg	e	d	*	A Concord seedling of high quality A good amateur grape suitable for local markets.
107	l—m	r—ob	dkg—ya	ar s	g—vg	m	d	+	Desirable for home use.
108	l—m	r	dk r	v st	g—b	m	d m	*	A favorite for the garden; good appearance; ships well.
109	l—m	r—o	dk r	v f	f—g	e m	d m	*	A hardy, vigorous red grape, suitable for short seasons and severe weather. Quality poor.
110	l—m	r	dk r	v f	f—g	e m	d	*	Worth growing only where better varieties cannot be grown. Hardy.
111	l—vl	r	pb—b	v s j	f—g	m	d	+	Its lack of productiveness and tender skin debar it from becoming a commercial grape.

Number	Variety	Species	Origin	Tendrils	Sexual status	Stamens	Cluster	
							Size	Compactness
112	Manito	Lab. Vin. Bourq. Lin. Rup.	Tex., 1895	c	pf	u	l—m	l
113	Marion	Rip. Lab	Pa.,? 1858	c	s	r	m	c
114	Martha	Lab. Vin.?	Pa., 1868	ir	f	u	m	m
115	Massasoit	Lab. Vin	Mass., 1852	c	s	r	av m	m
116	Maxatawney	Lab. Vin	Pa., 1844	c	s—	u	s—m	m
117	Merrimac	Lab. Vin	Mass., 1852	i	s	r	m	m
118	Mills	Lab. Vin	Ont. 1870	i	f—	u	l—m	c
119	Missouri Riesling	Rip. Lab	Mo., 1870	c	p f	u	av m	m—c
120	Monroe	Lab. Bourq.?	N. Y., 1867	c	f	u	m	m—c
121	Montefiore	Rip. Lab	Mo., 1879	c	s	u	m—s	c
122	Moore Early	Lab	Mass., 1871	c	f	u	m	m
123	Moyer	Lab. Bourq	Ont., 1880	c	s	r	m—s	m
124	Naomi	Vin. Rip. Lab	N. Y., 1879	i	f?	u	l—m	c
125	Nectar	Lab. Bourq. Vin.?	N. Y., 1880	i	pf	u	m	m—c
126	Niagara	Lab. Vin	N. Y., 1868	c	f	u	l—m	m
127	Noah	Rip. Lab	Ill., 1869	c	p f	u	l—m	m—c
128	Norfolk	Lab. Vin.	Mass., 1865?	i	f—	u	m—s	l—m
129	Northern Muscadine	Lab	N. Y., 1852	c	p f	u	m—s	m—c
130	Norton	Aest. Lab	Va., 1830	i—ir	f	u	m	m—c
131	Norwood	Vin. Lab	Mass., 1880	ir	s	r	l—m	m
132	Oneida	Vin. Lab	N. Y., 1871	c	s	u	s—m	l
133	Oporto	Rip. Lab	unk., 1860	c	s	r	m—s	c
134	Othello	Vin. Rip. Lab	Ont., 1859	c	f?	u	vl—ab m	c
135	Ozark	Aest. Lab	Kan., 1889	i	s	r	m—l	vc
136	Perkins	Lab. Vin	Mass., 1830	c	f	u	m	c
137	Pocklington	Lab	N. Y., 1870	c	f	u	m—l	m—c
138	Poughkeepsie	Bourq. Lab. Vin.	N. Y., 1860?	i	f	u	m	vc

Number	Berry		Color	Flavor	Quality	Season	Use	Horticultural status	Remarks
	Size	Form							
112	m	r	p b	s t	g	e	dw	+	Does not reach its best quality in New York.
113	m—s	r	b	sp	f	m	w	+	An old variety grown in some localities for wine.
114	m	r	g—yg	f m	g—vg	m	dw	—	Other varieties better for the North. Does not ship or keep well.
115	l—m	r	dk br r	f	g—vg	m	d m	+	Vigorous and hardy but subject to mildew and rot. Recommended for home use.
116	m—l	o	g—ag	fs—t	g—vg	l	d	—	Not a northern grape; subject to fungus diseases; late in ripening.
117	l—m	r	b	j	g	m	d m	+	Ships and keeps well; good grape for home use.
118	l	o—r	dk r—b	t v s	vg—b	m—l	d m	+	Variable; mildews; not hardy. Not excelled in fruit characters. Keeps well.
119	m	r—o	yg—ry	s m	f	l	d w	—	Too late for northern climate.
120	m—ab m	r	b p b	m	f	e	d	—	Nearly obsolete.
121	m—s	m	b	j v s t	f—g	m	w	—	A red wine grape, not of commercial value.
122	l—ab m	r	pb—b	f s	f—g	e	d m	**	The standard early commercial grape of New York.
123	m—s	ob	dk r	j v	g—vg	m	d m	*	Resembles Delaware, is hardier, but below it in quality, vigor and productiveness.
124	m	r	lg	ar s	g	l	d	—	Too late in ripening. Nearly obsolete.
125	m	r	dk pb	j s a	g—vg	m	d	—	Susceptible to mildew. Other grapes better.
126	ab m—l	o	g—yg	f s t	g—vg	m	d m	**	The standard white grape for the commercial grower.
127	m—s	r	g—yg	vt spr	g	m	w	—	A wine grape of little commercial importance in New York.
128	l—m	o—r	dk pr	v s t	f	m	d	—	Weak in vine characters. Now scarcely cultivated.
129	m—l	r—o	dk r	v f s	p	m e	d w	—	A typical red Labrusca, very foxy; not recommended.
130	m—s	r	b	s t	p	l	w	—	A leading wine grape but too late in ripening for New York
131	l	r—o	p b	—	g—vg	m	d	—	Sets fruit poorly, Not a grape for either the amateur or commercial grower.
132	av m	r	r	v spr	f—g	m	d	—	Of doubtful value.
133	m	r—ob	b	s sp	f	m	w	—	Grown some for wine but nearly obsolete.
134	l—m	o—r	b	spr	p	l	w	—	Late in ripening. Of little value for short growing seasons.
135	m—s	r	b	m	f	l	w	—	A southern wine grape. Too late in ripening for northern seasons
136	l—m	o	g	f t	p—f	m	d	—	At one time grown as an early grape, now being discarded.
137	l—m	ob	yg—a	j s t	g	m	d	*	Recommended for home use on account of quality. One of the best green grapes.
138	s	r	r	vs	vg—b	m	d	—	Nearly obsolete; never widely disseminated.

Number	Variety	Species	Origin	Tendrils	Sexual status	Stamens	Cluster	
							Size	Compact-ness
139	Prentiss	Lab. Vin	N. Y., 1870	c	f	u	m—s	c
140	Rebecca	Lab. Vin	N. Y., 1848	c	f	u	m—s	c
141	Red Eagle	Lab. Vin	Tex., 1885?	ir	s	r	m—s	l—m
142	Regal	Lab. Vin	Ill., 1879	i	f	u	s—m	vc
143	Requa	Lab. Vin	Mass., 1851	ir	s—	r	l—m	c
144	Rochester	Lab. Vin	N. Y., 1867	i	f	u	l—m	vc
145	Rommel	Lab. Rip. Vin	Tex., 1885	i	p f	u	av m	c—m
146	R. U. Munson	Lin. Lab. Vin	Tex., 1887	i	s	u	m—l	c—m
147	St. Louis	Lab	Mo., 1897	c	f	u	l—m	m—c
148	Salem	Lab. Vin	Mass., 1851	c	s	r	m—l	c
149	Secretary	Vin. Rip. Lab	N. Y., 1867	i	p f	u	m—l	m—l
150	Senasqua	Lab. Vin	N. Y., 1863	i	f	u	l—m	vc
151	Taylor	Rip. Lab	Ky., 1840	—	s?	r	s—m	l—m
152	Triumph	Lab. Vin	Ohio, 1860	i	f	u	vl—m	c
153	Ulster	Lab. Vin	N, Y., 1885	i	f	u	m	c
154	Vergennes	Lab	Vt., 1870?	c	s—	u	m	m
155	Walter	Vin. Lab. Bourq	N. Y., 1850	i	f?	u	m	c
156	Wapanuka	Lab. Rip. Vin. Bourq	Tex., 1898	c	f—	u	m	c
157	Wilder	Lab. Vin	Mass., 1851	i	s	r	av m	l—m
158	Winchell	Lab. Vin. Aest	Vt., 1850	ir	f	u	l—m	l—m
159	Woodruff	Lab. Vin	Mich., 1874	c	p f	u	av m	c
160	Worden	Lab	N. Y., 1863	c	f	u	l	c
161	Wyoming	Lab	Pa., 1861?	c	s	r	m—s	c—m

Number	Berry		Color	Flavor	Quality	Season	Use	Horticultural status	Remarks
	Size	Form							
139	m—s	r—o	g—yg	s l	g	m	d	—	Poor in vine characters.
140	m	o	g—yg	j v s	g—vg	m	d	—	Difficult to grow. Going out of cultivation.
141	av m	r	r	j f t	vg	m	d	+	High in quality. An amateur variety.
142	av m	r	pr—dkr	s t m	g	m	d m	+	Worthy of extensive trial for market and home use.
143	m—l	o—r	dk r	s v	g—vg	l	d	—	Attractive berry and bunch; late in ripening for New York; subject to rot.
144	av m	o	dk r	v s	g—vg	e m	d	*	An early red grape, worth a place in the home vineyard.
145	l—m	o—r	g—yg	s	f—g	m	d	—	Rarely cultivated in New York.
146	m—l	ob	b	v s—t	g	m	d	+	Promising. Resistant to black-rot.
147	l—m	r	b	f s	g	m	d	+	Fruit resembles Concord. May prove of some value for New York as an early grape.
148	l—m	r	dk r	spr v	g—vg	m	d m	*	Grown but little; deserves better recognition for market and home use.
149	l—m	o	pb	vs	g	m	d	+	Very subject to rot and mildew. Can be grown only in favored localities.
150	ab m	r	rb—b	v sp spr	g	m	d	—	Weak in vine characters; recommended only for the garden.
151	s—m	r	g w	s sp	f—g	m l	w	—	Excelled by other varieties.
152	m—l	o	g—yg	v j	g—vg	l	d	+	One of the finest green dessert grapes. Unfortunately it ripens too late for most seasons in New York.
153	ab m—m	r o	dk r	j ar s	g—vg	m	d	—	Over-productiveness and lack of vigor debar it from the commercial class in New York.
154	l—m	o—r	r	v s l	g—vg	m	d m	*	Keeps and ships best of any of the Labrusca class. A good red grape for breeding, market or home use.
155	s—m	ov	r	ar v	g—vg	m	d m	+	Subject to mildew; difficult to grow. But few better red grapes. An amateur rather than a commercial sort.
156	l	r	y g	f s m	g	m	d m?	+	Worthy of trial in New York for market and home use.
157	l	sl o	b—pb	spr s	g	m	d	+	Should be planted more generally for special and local markets.
158	ab m—s	r	l g	j s	vg—b	e	d m	**	The standard early green grape for New York.
159	l—m	r—o	dk r	v f	f	m	d	—	Not worth growing where other red varieties of its class succeed. Fruit characters poor.
160	l	r	dk p—b	s j f m	g—vg	e m	d m	**	The standard early black grape in New York for home use and market.
161	ab m—s	r	dk r—a	v f	p	e m	d	*	Hardy, productive and early. but is low in quality.